

*REMARKS*

Applicants have considered the Final Office Action dated October 9, 2007, and the references cited therein. Each of the previously pending claims stand finally rejected. Applicants have amended the claims to more clearly identify the differences between their invention and the prior art. In particular, each of the independent claims has been amended to recite a data acquisition triggering mechanism/methodology, originally/previously presented in claims 16 and 27, that is not contemplated by the prior art. As a consequence of the cyclic/triggered data acquisition, the claimed system/method generally handles substantially less image data than the system disclosed in the cited Prause patent.

Applicants traverse the rejections of each and every one of the previously pending claims over the cited prior art in view of the amendments to the previously pending claims. The Prause patent, upon which the final rejection of the presently pending claims primarily relies, discloses a system wherein data is continuously received and stored by the system. Afterward, during a data processing stage that is independent of the data acquisition stage, a processor selects particular previously recorded VHS image frames based upon a heart cycle signal. Thus, Prause is able to select particular frames of interest, but at considerably greater computation and memory resource expense than the claimed invention wherein a trigger selectively enables image data acquisition.

Applicants therefore request favorable reconsideration of the Office Action's grounds for rejecting the previously pending claims in view of Applicants' amendments to the previously pending claims and the Remarks provided herein below. Please charge any fee deficiencies to Deposit Account No. 12-1216.

*Summary of the Rejections Based on Prior Art*

1. Claims 1, 3, 6-9, 11-14, 16-19, 21-27, 31-35, 37, 39 and 42-46 are rejected as anticipated under 35 U.S.C. §102(b) over Prause et al. US Pat. 6,148,095 (Prause).

2. Claims 4 and 14 are rejected as obvious under 35 U.S.C. §103(a) over Prause in view of Vince US Pat. 6,200,268 (Vince).

3. Claims 5, 10, 28-30, 36 and 40 are rejected as obvious under 35 U.S.C. §103(a) over Prause in view of Slager US Pat. 5,771,895 (Slager).

Applicants traverse the grounds for each and every rejection for at least the reasons set forth herein below. Applicants address the specific rejections in the order they arise in the Office Action.

*The Rejection of Claims 1, 3, 6-9, 11-14, 16-19, 21-27, 31-35, 37, 39 and 42-46 as Anticipated by Prause*

Applicants traverse the rejection of **claim 1** (amended to include elements corresponding to previously pending claims 16 and 27) and each of the now amended independent claims because Prause does not disclose the claimed "triggered acquisition" of data from the data-gathering probe. Instead, Prause discloses a system for acquiring image data continuously during an image data acquisition stage. The entire acquired set is thereafter processed to render a series of images that are displayed as video image frames (stored on a VHS tape and rendered at 30 frames per second). See, e.g., Prause, phase correlation unit 239 described at col. 5, lines 15-25 and col. 6, lines 25-33. Not until a later (data fusion 310) step does Prause seek to generate a sub-set of frames synchronized to a heartbeat cycle signal. Prause neither discloses nor suggests Applicants' claimed triggering mechanism that is utilized by a set of system components responsible for enabling *acquiring* image data provided by a data-gathering probe. Since Prause's system acquires data continuously over the entire heartbeat cycle, there is no need for Applicants' claimed *acquisition* trigger.

Each of the remaining independent **claims 11, 19, 31 and 39**, includes the above-mentioned "trigger" mechanism associated with data gathering in the claimed systems and methods. For at least this reason each of these claims is patentable over the prior art.

*The Rejection of Claims 4 and 14 as Obvious Over Prause in view of Vince*

Applicants traverse the rejection of **claims 4 and 14** for at least the reasons set forth herein above with regard to claims 1 and 11 from which these claims depend.

*The Rejection of Claims 5, 10, 28-30, 36 and 40 as Obvious Over Prause in View of Slager*

Applicants traverse the rejection of **claims 5, 10, 28-30, 36 and 40** for at least the reasons provided herein above regarding the independent claims from which each claim depends. In addition, Applicants traverse the rejection of claims 10, 30 and 36 for at least the further reason that Slager neither discloses nor suggests commencing acquisition of data when a rotating transducer has reached a predetermined rotational position. **Claims 10, 30 and 36** describe a system in which the hardware, in real time during probe data acquisition, captures (acquires) an image at the specified time in the cycle, at a known rotational

orientation with respect to the catheter – an further triggering mechanism that is neither disclosed nor suggested by Slager.

*Conclusion*

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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